#### PATENT COOPERATION TREATY

## **PCT**

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Artcle 36 and Rule 70)



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Applicant's or agent's file reference DPP043595KR	FOR FURTHER ACTION	See Form PCT/IPEA/416
nternational application No.	international filing date(day/month/year)	Priority date (day/month/year)
PCT/KR2004/003491	29 DECEMBER 2004 (29.12.2004)	31 DECEMBER 2003 (31.12.2003)
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Applicant		
SAMYANG GENEX CORPOR	ATION et al	
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	4 sheets, including this cover	
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	to the International Bureau) a total of	sheets, as follows:
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b. (sent to the International I	Bureau only) a total of (indicate type and mu	
	ing and/or tables related thereto, in electroni Listing (see Section 802 of the Administrati	e form only, as indicated in the Supplemental
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Box No. I Basis of the re		
Box No. II Priority	•	
<u> </u>	hment of opinion with regard to novelty, inv	entire sten and industrial applicability
Box No. IV Lack of units		
Box No. V Reasoned sta		ovelty, inventive step or industrial applicability
Box No. VI Certain docu		
Box No. VII Certain defec	efects in the international application	
	ryations on the international application	
Date of submission of the demand	Date of completic	a of this report
28 JULY 2005 (28.	.07.2005) 17 APRI	L 2006 (17.04.2006)
Name and malling address of the IPEA/K	CR Authorized office	

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Form PCT/IPEA/409 (cover sheet) (April 2005)

#### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No. PCT/KR2004/003491

## Box No. I Basis of the report

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#### INTERNATIONAL PRELIMINARY REPORT ON PATENTARILITY

International application No. PCT/KR2004/003491

NO

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

#### 1. Statement Novelty (N) 1-12 YES Claims 1-12 Claims \_\_\_\_\_ Inventive step (IS) YES Claims None NO 1-12 Industrial applicability (IA) Claims YES

None

#### 2. Citations and explanations (Rule 70.7)

The following documents have been considered for the purpose of this written pointon:

01: The Plant Cell, Voi.15:1468-1479 (2003-06)

Claims

#### 1. Novelty and Inventive Step

The present invention relates to a method for assept production of secondary metabolites by outsuring plant cells in a medium treated with alkanolo acid or its cells, and a medium for producing secondary metabolites in plant cell outsize comprising plant cell outsize medium and o inside to 20mil of alkanolo acid or its cells.

01 is provided to produce first metabolites by enhancing the supression of a specific protein, wherein transpenio tobacco plants containing P-GUS ere treated with sodium butyrate et 5 to 5004, which are inhibitors of RDA. to increase the occeptuation of the histoness present on the PetE promoter.

02 discloses e process to enhance the efficiency of specific protain production by adding an effective ascunt of butyrio sold or its sait to the culture secious. Swelfically, the production of someolomal antibodies is enhanced by culturing hybridone cells in a medium containing an effective ascunt of butyric sold.

The subject setter of claims 1 to 9 is a method for production of secondary metabolites by culturing plant cells in a medium containing alkanoic acid or its sait.

Compared with the present application, none of the above-mentioned prior art documents suggests a method for production of secondary methodites in pient cell culture by treating a culture medium with alkangle acid or said thereof.

The subject matter of claims 10 to 12 is a medium for producing secondary metabolites in plant cell culture comprising plant cell culture medium and o 1mM to 20mM of aikanoic acid or its sait.

(Continued on Supplemental Sheet.)

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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#### Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

#### Box. V

Compared with the present application, none of the above-mentioned prior art documents suggest a medium producing secondary metabolites containing alkanoic acid or its sait for plant cell culture.

in addition, concerning the effect in mass production of secondary metabolites in plant cell culture by enhancing secondary metabolism of plant cells with treatment of a culture medium with sixenoic acid or salt thereof, the present invention is remarkable over 01 and 02.

Therefore, the subject matter of claims 1 to 12 of the present invention does not seen to be easily invented by a person skilled in the art by using the teachings of 01 for enhancing the expression of a specific protein and 02 for enhancing the efficiency of specific protein production.

Accordingly, the subject matter of cleims 1 to 12 is novel and also involves an inventive step [PCT Article 33(2) and (3)].

#### 2. Industrial Applicability

The present invention relates to a method for mass production of industriality applicable secondary metabolites by culturing plant cells and a culturing medium thereof.

Therefore, the subject matter of claims 1-12 is considered to be industrially applicable [PCT Article 33(4)].